Best Practice Procurement

in Construction and Infrastructure in New Zealand

Discussion Document




NZ CONSTRUCTION INDUSTRY COUNCIL CIC

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New Zealand Construction Industry Council

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Best Practice Procurement

1. Executive Summary

1.1. The primary goal when purchasing construction services is to achieve best value. This includes purchasing a service that is cost efficient, that minimally impacts communities and the environment, has design integrity and quality, fosters innovation and that is mutually satisfying to all parties involved. Around the world, Governments and private clients understand the importance of integrating best practice into each element of a construction project. This report seeks to impart some of that knowledge, to assist in the development and application of best practice in New Zealand, and the achievement of best value.

Issues Facing the Sector and Drivers for Change

1.2. Key issues currently being faced in the construction sector in New Zealand include:

- there is a focus on short term and not whole of life costs (hidden costs such as increased maintenance, building re-fitting, and greater safety risks in the longer term are not accounted for)
- there is a focus on costs over value (focussing on the lowest cost bid makes it extremely difficult, if not impossible, to ensure the quality of the final product)
- the lowest-bid approach is compromising design quality and integrity, health and safety, training, the environment and education, all of which constrains innovation (given the need to trim costs in order to win contracts in the first place, there are few incentives to keep training and investing in innovation and development)
- the lowest bid approach encourages unsustainable markets (bidders are required to seek every possible cost-efficiency, which can lead to under-estimation of the actual costs associated with undertaking the work, and low/unsustainable margins)
- inappropriate risk allocation is occurring (risk allocation is often dealt with simply by requiring contractors to work to fixed price contracts, with little thought as to whether this is appropriate, or sustainable)
- accountability needs to be improved (monitoring of the outcomes of contracts is not often undertaken, with consequent poor information on the actual quality of the product/service, and its performance over the longer term).

1.3. In this context, there are several drivers for change in the sector and the way that construction services are procured:

- there is an increasing acceptance that issues other than price, such as environmental sustainability, design quality and integrity, innovation and excellent health and safety practices, should be key determinants of the selection process because of the increasingly complex requirements for projects
- legislative change is driving towards value for money, rather than price minimisation (in particular in the transport sector).

1.4. Internationally, Governments have been grappling with these same issues for some time. In particular the Dutch and British Governments have made good progress. Both are developing comprehensive procurement frameworks that have quality-based selection processes as their core.

Value-based Selection Processes

1.5. After considering the issues currently facing the construction sector, the drivers for change, and the international consideration that has been given to these issues, this report submits that the achievement of Government's objectives will only be possible if industry is able to provide its services in a sustainable way, with appropriate skills, and with adequate investment. This means that firms need to be profitable; work in a challenging technical environment; develop rigorous professional resources; and optimise the best outcomes through partnering arrangements with clients. Government policy needs to change to allow the achievement of these objectives, as do the agencies charged with the task of implementing Government strategy. In short, and at the simplest level, new procurement practices must obtain "the best value for money" and enable

persons to "compete fairly", and the concept of best value must include environmental and social responsibility; design quality and integrity, sustainable development (eg whole of life considerations); and training and education of suppliers. Quality-based selection processes have a major part to play in achieving these objectives.

1.6. Key benefits that accrue from quality based selection processes include:

- **Positive relationships.** The critical client/contractor and client/consultant relationships are enhanced from the beginning of the selection procedure, which is not adversarial as in a price-based selection process. Quality-based selection brings the client and the consultant together as a team from the beginning, which is a key ingredient to ensure a quality project.
- **Clearly defined and mutually agreed upon scope**. Project scope is best determined when the client has had an opportunity to thoroughly discuss the project details with the best-qualified firm. Agreement can be reached upon the number of alternatives to be explored, the degree of attention to be given to environmental/consent issues, cost effectiveness, cost construction timeframe, social impacts, operation costs and maintenance details.
- **Fairer fees.** Fees will be fairer to the client, the contractor and the consultant because they are negotiated after the parameters of the assignment are fully established. Contractors and consultants will not be under pressure to minimise their efforts or compromise on materials and design quality and integrity. This means the project will better enhance the built environment, minimise impact on the natural environment, be safer, more efficient, more durable, and more economic to operate over its life cycle.
- **Long term cost effectiveness.** The correct selection of a top qualified contractor has major impact on the overall project costs. The decisions made by the contractor in the first 5 percent of their involvement in the project, have the highest leverage on the life cycle cost of the project.

Practices to Encourage

1.7. This report sets out practices to encourage in a number of key areas. One of the most critical recommendations is that quality based selection processes should be encouraged. Practices to adopt include:

- For larger projects, consultants and contractors should be pre-qualified based in part on their implementation of best practice, where responsibilities are written into tender and contract documents and where tender submissions are evaluated based, in part, on best practice standards.
- Procurement processes should be focussed on the delivery of best value for money. This is seen to be not the lowest cost but the best balance of design quality and integrity and whole life cost to meet the user requirement.
- Partnering approaches (working together to improve design, reduce accidents and costly future maintenance activities) should be encouraged.
- The method of selection should not force fees down to the point where consultants cannot afford to assign properly qualified staff for sufficient periods of time. Inadequate fees can lead to the reduction of the scope and quality of the work, by spending less time on the project, assigning sub standard materials, or assigning lower paid, usually less qualified, personnel.
- Project scope should be determined when the client has had an opportunity to thoroughly discuss the project details with the best-qualified firm.
- Mandatory health and safety practices/criteria should be set that have to be met to even enter a selection process.
- All government agencies should meet the requirements of the New Zealand Injury Prevention Strategy, which includes the need to *encourage people to consider injury prevention when making purchasing decisions.*
- For construction, procurement processes with the following features should be adopted:

  The selection of suppliers (including advisers and designers) that have an established corporate commitment and demonstrable performance in respect of health and safety;

  The award of the project to suppliers who have project specific proposals for managing health and safety that clearly demonstrate a total commitment to zero tolerance;

The adoption of procurement processes that involve, during the early development and design stages, those parties that will construct, operate, maintain (including cleaning) and use the facility; and

The use of open output performance-based specifications which give the relevant weighting to health and safety with other key drivers.

- Relevant factors relating to sustainable development and the environment should be built into contract specifications e.g. specifications may reflect environmental matters in keeping with government's 'green strategies' and by taking award decisions on the basis of 'whole life costs' (particularly including waste and energy use, for instance).
- Adherence to a recognised quality assurance system should be standard as a best practice to be adopted.
- Performance measurement indicators and the use of tools such as value and risk management and whole life costing should be adopted as standard.

Recommendation and Next Steps

1.8. The key to a quality built environment , value for money, good health and safety and environmental outcomes is good planning and management of projects. The NZ Government should be striving to be among the world leaders in public sector implementation of a structured, quality-based construction procurement process. This does not need to mean 're-inventing the wheel'. The UK's *Achieving Excellence* programme, discussed in some detail in this paper, provides an exceptional foundation from which to begin development in NZ. This report's recommendation is that the Government should consider adopting the UK model, and adapting it to NZ conditions. To assist alignment between the industry and government on the development and implementation of quality-based processes, the following steps are suggested:

- The Construction Industry Council wishes to representations to government about the use of quality-based processes, using the material in this report as a base, and seek endorsement of the approach.
- Government and the industry should set up a cross-sector working group of purchasers and suppliers, tasked with:

  reviewing the potential for change and identifying the expected benefits of that change

  identifying potential models for adoption, using the UK *Achieving Excellence* programme as a base from which to begin development of a framework for New Zealand for the adoption of value/quality based procurement guidance and procedures

  developing proposals for lifting competence in both purchasers and suppliers

  defining processes for identifying and then ensuring best practice is applied.
- Consideration should be given to running an industry meeting or preparing a package of information material, to ensure that those in the sector understand the potential benefits of change, and the extent of change to procedures that might be required.
- Consideration should be given to the work undertaken by the Centre for Advanced Engineering.

1.9. Finally, it is important to note that there is not any one simple 'fix'. The key to delivering improved outcomes will be to find the balance between all the aspects of procurement listed above, and to allow sufficient time and resource to ensure that the broader and longer term implications of any procurement decision can be adequately considered by client and contractor alike.

Best Practice Procurement

2. Introduction

2.1. The primary goal when purchasing construction services is to achieve best value. This includes purchasing a service that is cost efficient, that minimally impacts communities and the environment, has design quality and integrity, that fosters innovation and that is mutually satisfying to all parties involved. Around the world, Governments and private clients understand the importance of integrating best practice into each element of a construction project. This report seeks to impart some of that knowledge, to assist in the development and application of best practice in New Zealand, and the achievement of best value.

Purpose

2.2. The Construction Industry Council (CIC) wished to gather information from national and international sources on integrating best practice into the process of procuring construction services and methods of achieving this integration. The CIC identified that central and local government are the largest purchasers of construction services in New Zealand[1], and the long term goal of this exercise (of which this paper might be only the initial foundation) is to assist them in integrating best practice activities into their procurement process in order to achieve their goal of best value and to encourage them to act as a role model setting the standard for others to follow.

2.3. The project has a built environment focus, including the transport, building, design and civil sectors. In this context, the purposes of this paper are to:

- define the opportunities to improve the procurement of design and related professional services, and construction services in New Zealand
- using national and international examples (and case studies where possible), summarise ways in which best practice procurement methodologies have been developed and used, and where possible define their impacts on improvements in value obtained and outcomes including design quality and integrity, health and safety, the quality of the built and natural environment , project sustainability and training and education
- set out a series of principles, based on the national and international examples, that might be used to develop best practice procurement processes for construction services in New Zealand
- set out a proposed set of next steps to begin the process of integrating best practice into procurement methodologies on a consistent, national basis.

Methodology

2.4. National and international best practices have been researched and, where possible, evaluated to determine the benefits they add to a construction project. In addition to identifying these benefits, we have identified case studies and methods used to achieve integration of best practice and the goal of best value. Much of the research has been obtained from information available from the Internet. In particular, the UK has made great progress in developing a comprehensive framework of guidelines for procurement processes that are designed to achieve best value, all of which are available on the internet (sources are noted below in the Report).

[1] Conservative estimates by ACENZ put the annual figures at $1.2 billion on transport, $0.8 billion on other local government infrastructure, and $2 billion by central government in the education, health and corrections sectors.

2.5. The Report has focussed on procurement practices that lead to the delivery of construction best practice in the following areas:

- Health and Safety
- Design Quality and Integrity
- Enhancenment of the Built Environment
- Minimal or positive impact on the natural Environment
- Project Sustainability
- Best Value outcomes
- Training and Education.

2.6. Finally, integrating best practice into the tendering, planning, design and monitoring processes has been considered, and recommendations made based on the practices and guides that are emerging internationally.

Best Practice Procurement

3. Current Situation

3.1. This section of the report discusses current procurement processes, drivers for change in New Zealand and internationally and sets out the main benefits that might be expected from introducing best practices into procurement processes.

Procurement Processes – What Do We Mean?

3.2. 'Procurement method' is the phrase given to the process by which clients and users achieve their building projects. 'Procurement' means much more than just construction procurement – and covers the process from initial concept planning and design, to development, construction and maintenance and ongoing monitoring of performance. A wide range of procurement methods exist ranging from single stage traditional methods at one end of the spectrum (Multi-point: many contracts, many split responsibilities, for both design and construction) to Design and Build (Single point: one contract for both design and construction). New forms of procurement are continually being devised to match client/ community requirements. Some of the most recent are:

- Design, Construct and Maintain
- Design, build, finance and operate
- Project Team Partnering
- Alliancing
- Prime Contracting.

3.3. Selection of an appropriate procurement method may influence the success or failure of a project as much as having brought the right resources to bear. The right people working in the wrong way is as harmful to the client's project as the wrong people working in the right way. Procurement polices undertaken by the purchasers of construction services have a significant impact on the selection of professional and contractor services, on design and planning decisions and on performance monitoring and accountability. For example, the Hunn Report[2] into leaky buildings found that an undue emphasis on low cost in construction influenced the selection of contractors and consultants and design and inspection decisions. The report concluded that excessive cost cutting in the guise of competitiveness pervades the industry and that this is a significant factor in systemic construction failures of leaky buildings. As noted below, this focus on cost and competition at the expense of other factors is an important issue across all the construction sectors.

Current Guidelines on Procurement

3.4. There are several guidelines that currently exist for Government (central or local) procurement. The Ministry of Economic Development's Regulatory and Competition Policy branch has provided *Government Procurement in New Zealand – Policy Guide for Purchasers* (July 2002). The Association of Consulting Engineers of New Zealand and the Institution of Professional Engineers of New Zealand have provided a *Guideline on the Briefing and Engagement for Consulting Engineering Services*, dated January 2004. Finally, comprehensive guidance on running a procurement process is provided in *Procurement – A Statement of Good Practice*, issued by the Office of the Controller and Auditor-General in June 2001. Transfund New Zealand's Competitive Pricing Procedures (CPPs) also provide clear and mandated guidance in the transport sector. The CPPs range from Lowest-Price Conforming procedures (with a focus on price) to Brooks Law procedures which focus on quality.

3.5. The Ministry of Economic Development's guide to government procurement does not provide significant guidance on processes for securing suppliers of large construction and/or building contracts. The ACENZ and

[2] Report of the Overview Group on the Weathertightness of Buildings to the Building Industry Authority, 31 August 2002

IPENZ guideline on briefing and engagement is, however a useful guide to selection processes, although it is primarily focused on consulting services. The ACENZ/IPENZ guideline advocates the use of quality-based selection as the only means of ensuring that high quality advice is procured without that process being compromised by cost issues. It references the FIDIC[3] guide to consultant selection, to which we refer extensively in the report, as providing excellent guidelines on the selection processes that should be used. The Audit Office's Guideline is an excellent source for understanding the importance of a well-structured procurement process, and the importance of the 'basics' – careful definition of the specification, cost estimating, robustness and transparency of process, attention to detail in planning and project management etc. It does not, however, provide guidance on the ways in which quality/value can be inserted in the actual selection process.

3.6. These guidelines are set out in more detail in Annex 1 to the Report.

Current Practices – Issues to Address

3.7. The main issues facing the sector, and which this report contends need to be addressed with a move to value-based selection processes, are set out below. The list of issues has been assembled following discussions with industry participants, from the outputs of Transfund's CPP Industry Working Group, and through literature review (in particular with reference to the Hunn Report on leaky buildings). Key issues being faced in the sector are as follows:

- **There is a focus on short term and not whole of life costs**. The focus on minimising capital costs is at the expense of 'whole of life costs' of major investments. Hidden costs such as increased maintenance, building re-fitting, and greater safety risks in the longer term are not accounted for. Government and the public still face these risks and costs, but they are not considered as part of procurement processes, so there is little focus on understanding and minimising them, either by clients or contractors. One of the Hunn Report's recommendations was that changes to practices consider the concept of optimised 'whole-of-life' costs as opposed to minimised capital cost.
- **There is a focus on costs over value**. This issue is related to the first – value in procurement doesn't end when the procurement process ends – it applies to the lifetime of the object of the procurement. Focussing on the lowest cost bid makes it extremely difficult, if not impossible, to ensure the quality of the final product – the long term value for money. For instance, the Hunn Report contended that there is potential for a major systemic breakdown across the industry. While buildings have always leaked, traditional building methods have had a greater degree of redundancy in their design – 'belt-and-braces' – and have coped by providing reasonable protection and by dealing with water penetration when it occurs – even if inadvertently. With a strong focus on lowering costs, the redundancy is no longer provided – the imperatives of cost and speed mean that corners are being cut.
- **The lowest-bid approach compromises health and safety, quality, training, environment and education, all of which constrains innovation.** Given the need to trim costs in order to win contracts in the first place, there are few incentives for the construction industry to keep training and investing in innovation and development. Again, the Hunn Report noted this issue and commented on the lack of professional and trade skills and good judgements in the building industry, and the identifiable decline in the levels of skills in most trades on site. This decline is understandable. With a lowest cost approach, the primary incentive on the industry is to strip out all the value-adding, but potentially costly, activities such as training, education and investment in research and innovation. Over recent years, price driven procurement has tended to stifle innovation, ignore training and development, and impede career development. In short, infrastructure industries are not seen as attractive options, with a perception that people are under paid, not supported, unrecognised and so on.
- **The lowest bid approach encourages unsustainable markets**. The low bid approach requires bidders to seek every possible cost-efficiency, and can lead to under-estimation of the actual costs associated with undertaking the work. In this instance the contractor, consultant or supplier faces either reduced margins in relation to the quoted price, or a loss on the project. This reduces the capital that firms have to develop, to train and innovate, so the capability in the industry is gradually eroded, and can even lead to the elimination of firms (particularly smaller firms that do not have the resources to absorb losses). In the transport sector there is general dissatisfaction among suppliers with the outcomes of the

[3] FIDIC is the French acronym for the for the International Federation of National Associations of Independent Consulting Engineers

CPP process; in particular best value is not being achieved for clients and margins are such that parts of the industry are becoming unsustainable.

- **Inappropriate risk allocation is occurring**. Risk allocation is often dealt with simply by requiring contractors to work to fixed price contracts, with little thought as to whether this is appropriate, or sustainable. Agreement between the parties on where risk should best be allocated is the exception, and not the norm.
- **Accountability needs to be improved.** Monitoring of the outcomes of contracts is not often undertaken, with consequent poor information on the actual quality of the product/service, and its performance over the longer term. Accountability arrangements rarely cover essential processes for communicating responsibilities, monitoring performance and providing feedback on that performance.

3.8. In summary, the Hunn Report, while focussed on the Building industry, again provides an excellent description of the broad issues facing the sector:

"Although the above is all very much anecdotal evidence, it is consistent and portrays an attitude throughout the certification process of perverse incentives. The concern is that the attempt to hold down the cost of construction and/or code compliance costs of dwellings has focused on the initial capital cost of construction as opposed to the whole-of-life cost. This could compromise the long- term value of dwellings and result in a lower value housing asset base in New Zealand. The Overview Group considers it essential that any objective to hold down the cost of construction must not be allowed to drive a 'down to cost' as opposed to 'up to standard' mentality. This can apply in both the construction and certification sectors of the industry. There is clear evidence that both territorial authorities and building certifiers feel constrained in terms of the level of service they can provide due to cost-cutting behaviour."

3.9. All is not 'doom and gloom', however. Some advances are being made, with excellent results. In the transport sector, for example, alliance arrangements are being developed and applied with excellent results. An alliancing arrangement was used for the Grafton Gully project, and is being used for the ALPURT B2 toll road project (discussed in more detail later in the report.

Drivers of Change – A Changing Environment

3.10. There are several drivers for change in the sector and the way that construction services are procured:

- there is an increasing acceptance that issues other than price, such as environmental sustainability, innovation and excellent health and safety practices, should be key determinants of the selection process because of the increasingly complex requirements for projects
- legislative change is driving towards value for money, rather than price minimisation (in particular in the transport sector).

Increasing Complex Requirements

3.11. The new Land Transport Management Act in the transport sector provides a good example of the increasing complexity facing clients and contractors. Resource consent processes, physical protection of the environment, noise and nuisance protection for residential areas, ensuring slope stability, historical and cultural considerations, and risk management requirements are all examples of the increasing complexity being faced. Quality-based selection processes and partnership arrangements between clients and contractors are increasingly being seen as the only way in which these complexities and risks can be managed in a way that fairly apportions responsibility and provides for the innovation, flexibility and creativity required to successfully complete the projects. Transit New Zealand's decision to use alliancing on the Grafton Gully and ALPURT projects is an example of its endorsement of quality based selection processes on these increasing complex projects.

3.12. The Hunn Report noted that, due to significantly different expectations driven by changing demographics, generational differences in lifestyles, increasing infrastructure pressure, and concern over pollution and impacts on their health, New Zealanders of the future will not be satisfied with the status quo. They will be demanding greater attention to:

- Environmental issues, and the lightest possible impact of New Zealand's built environment upon the

natural environment.

- Safety and health for the users of the built environment in New Zealand.
- Availability of differentiated buildings to meet the social, physical and financial needs of the different demographic sectors, be they by family size or by age or by race or social grouping.
- Providing 'buildings and physical infrastructure that people can be proud of', such that enhanced attractiveness and utility of the built environment is achieved, and appropriate heritage buildings are retained.

3.13. The Hunn Report's opinion was that, in the building sector, the satisfaction of these expectations will need to involve innovation – innovative design, materials, processes, construction techniques, and training – and will need to be accompanied by a culture change in both New Zealanders as a whole and in the sector in particular. We provide a quote from the Hunn Report below on the change required to meet these higher expectations – while it focuses on the building sector, the findings and insights are transferable across all the construction sectors.

"The sector has traditionally been a low-margin one, in which customers have focused upon the 'first cost' to themselves rather than the lifetime cost to the nation. Further, there has been a tradition of acceptance of all participants in the sector as valid providers of the built environment, no matter what degree of training they have had. These have often culminated in acceptance of low-price quotes from inadequately skilled persons, resulting in a dissatisfied customer with a greater propensity to withhold payment or take legal action, and financial problems for those in the construction sector.

These attitudes will need to be changed if the sector is to be competitive and is to deliver new concepts well to customers. There is no doubt that the more sophisticated the innovation, the greater the need for an understanding of its proper context for use that is required. There is also no doubt that a contributor to some of the sector problems has been a lack of skill at coordinated project planning, so causing unnecessary delays and idle staff time. Part of the research strategy will therefore need to be research into sector processes, and initiatives for raising skill levels in the sector so that the new knowledge generated can be put more effectively to work."

Change In Procurement Framework in the Land Transport Sector

3.14. The new Land Transport Management Act has brought significant changes to the competitive pricing procedure (CPP) procurement regime established under the Transit New Zealand Act 1989. Transfund's Board still has the role of approver of CPPs, which are now called *procurement procedures* under Section 25 of the LTMA but the process is now significantly different. The old Transit Act effectively specified the basis on which Transfund would approve CPPs. The new LTMA establishes some guiding principles and leaves it to Transfund to more precisely define the basis on which the procurement procedures will be approved. To fulfil its new requirements under the Land Transport Management Act, Transfund began consultation with the CPP Industry Working group on the implications of the bill, and has worked with Kensington Swan and the New Zealand Institute of Economic Research on a draft policy for the approval of procurement procedures.

3.15. To meets its requirements, Transfund has determined a draft policy for the approval of procurement procedures. Some of the concepts in that draft policy are likely to be relevant across all sectors, so we list them below:

- Transfund has the discretion to give weight to any or all of the features set out below, trading off desirable traits against one another to reach what it determines to be the best outcome. In doing so Transfund has determined that it will consider the total cost of the procurement procedure together with the whole of life cost of what is to be procured.
- Transfund will consider how well the procedure is designed to obtain the best value for money spent having regard to the purpose of the LTMA. This concept of best value for money is seen to be a much wider test than the old test of efficiency under the Transit Act.
- Transfund will have regard to the desirability that the procedure enables persons to compete fairly for the right to supply the outputs required, if two or more persons are willing and able to provide those outputs. That competition may include competition on price or on the non-price attributes of the supplier or the characteristics of the product being offered or any combination of these.

3.16. Finally Transfund has made it clear that procurement procedures which involve competition amongst two or more persons willing to provide the outputs required do not necessarily have to include competition on the basis of price. However, regardless of the degree to which the procurement procedure includes competition on price, it must include means by which either the procedure or the contract or contracts formed following it will ensure reasonably efficient delivery of the required outputs. This change in emphasis from Transfund from the cost or price of a good or service being determined by procurement, to the value of a good or service being maximised by an appropriate procurement procedure, is a good pointer to the kinds of change in approach likely to be necessary across all sectors to meet the increasingly complex demands of today's environment.

International Consideration of these Issues

3.17. Internationally, Governments have been grappling with these same issues for some time. The origins of value/quality-based processes were in the USA in the 1970s. In particular the Dutch and British Governments have made good progress, and the report covers these countries in some detail below. It is also worth noting that there has been progress in the Scandinavian countries, and in the European Union's policies (and if further work is undertaken it is suggested that some time be dedicated to reviewing these areas in more detail).

USA: Origins

3.18. Quality-based selection processes effectively began in the United States of America. In 1972, Public Law 92-582, the Brooks Law, was enacted to preserve professionalism in Federal procurement. This law mandated selection of engineers, architects and land surveyors on the basis of competence and experience through the Qualification Based Selection process. The majority of states have now enacted procurement laws patterned after the Brooks Law mandating qualification-based selection for professional design services (and this law forms the basis of the Brooks Law Competitive Pricing Procedure developed by Transfund). In 1987, Congress overrode President Reagan's veto of the highway/transit reauthorization legislation, thereby passing into law new measures aimed at requiring qualification-based procurement for design services. This broadened the application of Brooks Law beyond just direct federal agency procurement.

3.19. The following quote from a report by the Professional Technical Advisory Board, New Mexico, published September 1990, summarises the attitude in the USA that has driven the development and application of quality-based selection processes:

"When you have major surgery, you do not send out bid requests for medical professionals. If you are being sued, you do not select the lowest priced legal professional to defend you. In both cases you select on competence, experience and reputation. Design professionals should be selected with the same care, on specialised experience and qualifications. For your unique project, you need to utilise a qualification-based selection process to obtain the best firm for the least overall cost" . [extract from.]

Dutch Study: PSIB Process and System Innovation in the Dutch Construction Industry

3.20. PSIB, which stands for Process and System Innovation in the Construction Industry (Proces- en systeeminnovatie in de bouw), is an initiative that brings together the major stakeholders in the Dutch construction industry: clients, contractors, suppliers, consultants, research institutes and universities, with the aim to modernise the industry through process and system innovation.

3.21. The PSIB's vision is that the industry acknowledges the need for change, with the mission being to instigate this change process in cooperation and interaction with the entire construction industry and through contacts with similar international initiatives, with the aim of achieving sustainable improvement in quality, performance and image. The PSIB has five objectives:

- improvement of social-economic benefits from construction
- increase of added value to the client and other stakeholders
- increase of profitability of the construction industry
- creation of a competitive environment that stimulates innovation, thus enhancing the image and reliability of the industry

- accumulation and rapid utilisation of knowledge.

3.22. The issues being considered by the Dutch are consistent with those that this report aims to cover. The PSIB research and development programme, in accordance with the PSIB objectives, aims at creating added value for the client and a reasonable profitability of the industry. The Dutch Government considers that achieving those two objectives will result in substantial socio-economic benefits, such as:

- more value for the same money, through a life cycle approach and more attention for quality, safety, health and environmental aspects
- same value for less money, through more efficient production processes and less fragmentation
- higher quality of the built environment
- safer and healthier production processes
- better image of technical sciences in general and the construction industry in particular
- more employment and higher educational level in the industry.

3.23. The main premise of the programme is that innovation, rather than cost minimisation, is needed to improve the competitiveness of the Dutch construction industry. The problem is expressed by the Dutch in an interesting way: it is considered that there is an inconsistency between the demand and supply side in the construction industry. In other words: What is desirable (demand) does not match with what is possible (supply). The demand side makes specifications without knowing what actually is possible. The supply side is involved at too late a stage and often under conditions not fit for the purpose. The result is that the client (demand side) does not get sufficient value, the delivery of the project is too late and the budget is exceeded. On the other hand the contractor, consultant or supplier (supply side) faces reduced margins in relation to the quoted price, resulting in a loss on the project. Nobody gains by this inconsistency between demand and supply. The Dutch contend that it is possible to make demand and supply match, by taking more elements into consideration than merely the lowest price. Important factors that may help demand and supply meet are total costs (besides investment costs also operation, maintenance and management costs) over the life cycle, service, after sales, aesthetics, public support, etc.

3.24. The research covered by PSIB programme has been structured into a short term and a long term research programme. The short term programme focuses on 'quick wins':

- establishment of a help desk-type organisation, that provides its expertise on process and system innovation to clients and contractors
- inventory and evaluation of completed alliance contracts, giving full disclosure of all aspects, for the benefit of learning for all parties
- understanding and optimising of life cycle costs (balance between investment and O&M-costs)
- development of a systematic approach to definition of functional specifications and corresponding budgeting.

3.25. The long term programme is centred around the themes of demand specification and selection, best practices and monitoring techniques and present norms and legislation. Key initiatives include projects to look at improving performance through innovative procurement, mixing cooperation and competition in construction and procurement at different levels of value-price specification: new concepts and a weighing frame-work for decision making.

United Kingdom Programme

3.26. The United Kingdom has undertaken a significant exercise to develop a future strategy for achieving best practice in its construction processes. The strategy is set out in a publication by the Office of Government's Commerce entitled Building on Success: The Future Strategy for Achieving Excellence in Construction. In the foreword to that document the RT. hon. Paul Boateng MP, Chief Secretary to the Treasury, notes the following:

"Looking forward, our strategy is based on exemplars of best practice in public construction procurement. These projects have provided the standard of excellence to which others must now aspire. I think we all owe a debt of gratitude to those government clients who have shown leadership, and to their industry partners for rising to the challenge. Our aim with this new plan is to incorporate initiatives, and the recommendations

and findings from diverse sources' into one coherent strategy. The key feature is a focus on strategic targets to help departments build on the progress already made.

The Government is committed to providing substantial new resources to improve the infrastructure of the UK. That means that the procurement of construction in the public sector will be take on a renewed importance – on the political agenda and in the public eye. Added to this, our expectations as citizens are now more sophisticated than ever. We expect quality in our buildings. We expect them to be well designed and fit for purpose – safe, practical and cost effective. That means we need to do everything we can – public and private sectors together – to ensure that maximum whole-life value for money is achieved".

3.27. The Achieving Excellence in Construction initiative was launched in March 1999 to improve the performance of central government departments, their executive agencies and non-departmental public bodies as clients of the construction industry. This is a key point – the UK has focused on the need to improve client performance, as a key lever for improving overall performance in the sector. Through the Achieving Excellence initiative, Central Government clients have committed to maximise, by continuous improvement, the efficiency, effectiveness and value for money of their procurement of new works, maintenance and refurbishment

3.28. The programme put in place a strategy for sustained improvement in construction procurement performance and in the value for money achieved by government on construction projects, including those involving maintenance and refurbishment. The Achieving Excellence initiative set out a route map with challenging targets for government performance under four headings – management, measurement, standardisation and integration. Targets included the use of partnering and development of long-term relationships, the reduction of financial and decision-making approval chains, improved skills development and empowerment, the adoption of performance measurement indicators and the use of tools such as value and risk management and whole life costing.

3.29. The key thrust of Achieving Excellence is the delivery of best value for money. This is seen to be not the lowest cost but the best balance of quality and whole life cost to meet the user requirement. Again, it is clear that the UK, similar to the Dutch, are considering issues entirely consistent with those that it is this report's purpose to consider. Further detail on the initiative, the issues it has covered, and the benefits that are already being achieved, is provided in the next section.

What Needs to be Done?

3.30. After considering the issues currently facing the construction sector, the drivers for change, and the international consideration that has been given to these issues, it is clear that the achievement of Government's objectives will only be possible if industry is able to provide its services in a sustainable way, with appropriate skills, and with adequate investment. This means that firms need to be profitable; work in a challenging technical environment; develop rigorous professional resources; and optimise the best outcomes through partnering arrangements with clients. The current industry framework hinders this objective as we have discussed.

3.31. Government policy needs to change to allow the achievement of these objectives, as do the agencies charged with the task of implementing Government strategy. In short, and at the simplest level, new procurement practices must obtain "the best value for money" and enable persons to "compete fairly", and the concept of best value must include environmental and social responsibility; sustainable development (eg whole of life considerations); and training and education of suppliers.

3.32. The issue is how to lead this change, and what practices need to be introduced. In the next section we discuss international and NZ developments that provide lessons to be adopted, and guidance on the best practices that need to be introduced and applied.

Best Practice Procurement

4. Best Practice in Procurement: National and International Examples

4.1. This section provides information on examples of practices, guidelines and projects from national and international experiences that demonstrate best practice. The approach we have taken is to describe the key findings or developments of relevance to the purposes of this report, and then to set out case studies or examples of relevance to different components of the procurement process (eg environmental and health and safety outcomes). The section makes considerable reference to the UK's Achieving Excellence programme, which provides a model that is potentially transferable to the NZ environment with a minimum of effort, and potentially significant gains.

International – FIDIC Guidance

4.2. FIDIC is the French acronym for the International Federation of National Associations of Independent Consulting Engineers[4] . While the guidance that FIDIC provides is primarily focussed on the procurement of consulting engineering services, the lessons and insights are transferable to construction processes.

4.3. According to FIDIC, selecting a consultant is one of the most important decisions an owner or client makes. The success of any project often depends upon obtaining the most able, experienced and reputable expertise available. The best project results are achieved when there is a true professional relationship of absolute trust between the client and the contractor. This is because the contractor must make sound, objective decisions and act in the best interest of the client at all times. The method of selection should therefore seek to develop mutual confidence between the two parties (and experience shows that a selection process with price tension can often lead to an adversarial relationship).

4.4. According to FIDIC there are two key points to consider when deciding what method of selection to employ:

- Since precise professional performance specifications are often extremely difficult to write it is difficult, if not impossible, to apply the principles of competitive price-based bidding on even slightly complex projects. That is to say, if the competition is based on price, different consultants may anticipate providing different levels of service.
- Successful contracting relationships depend on sufficient time spent by properly qualified people. Thus the method of selection should not force fees down to the point where consultants cannot afford to assign properly qualified staff for sufficient periods of time. Inadequate fees can lead to the reduction of the scope and quality of the work, by spending less time on the project, assigning sub standard materials, or assigning lower paid usually the less qualified personnel. (This is consistent with findings of the Hunn Report). Thus lower consulting fees give no assurance of lower total project costs, with inadequate engineering almost always leading to higher construction costs.

4.5. FIDIC suggests that the best selection method is to select based on quality. That is, the client chooses the consultant/contractor on the basis of professional competence, managerial ability, availability of resources, professional independence, fairness of fee structure, professional integrity and quality assurance systems (we note that for physical works/civil contracts, quality of design and materials would be additional criteria). FIDIC's recommended procedure for selection of consulting firms is to:

- Identify potential firms with relevant experience
- Select the most appropriate firm
- Negotiate the fee on a mutually agreed upon scope of services with the selected firm, and execute appropriate agreement terms.

[4] This section is sourced from the document Quality-Based Selection for the Procurement of Consulting Services, published by FIDIC.

4.6. The FIDIC report quotes the Ward Commission, set up in Massachusetts to eliminate corruption in the procurement process in the United States, which notes that:

"the goals of designer selection should not include minimising fees. Making fee part of the selection process will not save taxpayers' money. Rather the practice is likely to increase the ultimate costs of the public building system due to reduction in the design quality. Similar considerations will, in our view, apply to selection processes for physical/civil works, when the whole of life and refitting costs are considered."

Quality Assurance System

4.7. FIDIC submits that, from the viewpoint of the client, the quality of the services received is paramount. Quality, defined as conformance to client defined requirements, must be clearly understood by both parties. Adherence to a recognised quality assurance system should therefore be standard as a best practice to be adopted.

Quality Based Selections Deliver Best Value For Money

4.8. FIDIC submits that selecting a consultant based on quality ultimately provides the best value for the client. Experience has demonstrated that the competency of the consultant if the key to an efficient, cost effective project. That is, the FIDIC contention is that top quality consultants bring best practices to the project, which translates into the best possible solutions for the client and the end user, including the appropriate technology, innovative solutions and the lowest life cycle cost. Quality based selection also, in FIDIC's view, encourages consultants/contractors to continually improve their skills and strive for creativity and innovation because their selection depends on it. The client is the beneficiary of these best practices. Key benefits that are seen to accrue from a quality based selection process include:

- **Positive relationships**. The critical client/contractor relationship is enhanced from the beginning of the selection procedure, which is not adversarial as in a price based selection process. Quality based selection brings the client and the consultant together as a team from the beginning, which is a key ingredient to ensure a quality project.
- **Clearly defined and mutually agreed upon scope**. Project scope is best determined when the client has had an opportunity to thoroughly discuss the project details with the best-qualified firm. Agreement can be reached upon the number of alternatives to be explored, the degree of attention to be given to environmental/consent issues, cost effectiveness, cost construction timeframe, social impacts, operation costs and maintenance details.
- **Fairer fees**. Fees will be fairer to both the client and the contractor because they are negotiated after the parameters of the assignment are fully established. Contractors will not be under pressure to minimise their efforts or materials. This means the project will be safer, more efficient, more durable, and more economic to operate over its life cycle (FIDIC, page 13).
- **Long term cost effectiveness**. The correct selection of a top qualified contractor has major impact on the overall project costs. The decisions made by the contractor in the first 5 percent of their involvement in the project, have the highest leverage on the life cycle cost of the project according to FIDIC.

Quality Based Selection Worldwide

4.9. Finally, FIDIC notes that a quality based selection system is advocated and used (to varying extents) by the following organisations around the world:

- The Association of Consulting Engineers Australia
- The Australian Council of Building Design
- Asian Development Bank
- Association of Consulting Engineers of Canada
- Inter-American Development Bank
- The International Federation of Consulting Engineers
- Association of Japanese Consulting Engineers
- American Consulting Engineers Council
- The World Bank

- American Public Works Association
- Associated General Contractors of America

4.10. As we have noted earlier in the report Transfund New Zealand has allowed for the use of quality based selection processes for some time now, and is moving towards an even more quality focused selection process with the changes following the new Land Transport Management Act.

International – UK: Achieving Excellence

4.11. The UK's Achieving Excellence programme is a comprehensive framework of documents, developed with the key objective of delivery of best value for money. This is not the lowest cost but the best balance of quality and whole life cost to meet the user requirement. The Achieving Excellence initiative set out a route map with challenging targets for government performance under four headings - management, measurement, standardisation and integration. Targets included the use of partnering and development of long-term relationships, the reduction of financial and decision-making approval chains, improved skills development and empowerment, the adoption of performance measurement indicators and the use of tools such as value and risk management and whole life costing. The suite consists of the following documents:

- **Achieving Excellence – Building on Success**. Presents key findings from the first three years of the Achieving Excellence in Construction initiative and the strategy for the future.
- **Achieving Sustainability in Construction Procurement**. Notes that Government has an important role in driving the sustainability agenda by improving its own performance and translating that into its demands on suppliers
- **Achieving Excellence Guide 1: Initiative into Action**. This guide is the first of the three core documents. It provides an overview of Achieving Excellence and the other Procurement Guides . It describes the key initiatives and aspirations for Achieving Excellence. It brings together the key messages for management from each of the guides and outlines the content of the guides.
- **Achieving Excellence Guide 2: Project organisation.** This guide explains the key roles and responsibilities involved in construction procurement projects. It provides a recommended framework for project organisation that can be adapted to individual circumstances.
- **Achieving Excellence Guide 3: Project procurement lifecycle.** This guide outlines the decision points and processes involved in the delivery of construction projects. It sets the project procurement process in the context of the design and construction stages and key supporting processes such as risk management, value management and quality, cost, time and change control. It describes the key outputs that are required at each stage.
- **Achieving Excellence Guide 4: Risk and value management.** This guide explains how risk and value are managed. These processes are fundamental to the successful delivery of projects and should be used throughout the life of the project. The guide summarises the key principles of risk and value management in the context of construction projects and describes the practical steps that need to be taken over the project lifecycle.
- **Achieving Excellence Guide 5: The integrated project team**. This guide explains how to work together as an integrated project team. The principle is simple: client and suppliers working together as a team can enhance whole life value while reducing total cost, improve quality, innovate and deliver a project far more effectively than in a traditional fragmented relationship that is often adversarial. Collaborative working should be a core requirement for each element of every project. Putting it into practice through team working and partnering requires real commitment from all parties involved, but brings benefits that far outweigh the effort involved.
- **Achieving Excellence Guide 6: Procurement and contract strategies.** This guide explains how to determine appropriate procurement routes that will deliver best value for money. Design, construction, operation and maintenance should not be considered in isolation from each other. The recommended procurement routes ensure that designers, constructors and specialist suppliers work together in an integrated team.
- **Achieving Excellence Guide 7: Whole-life Costing**. This guide focuses on the need to base decisions on a whole-life approach rather than the up front capital cost of the construction. It provides advice on producing whole-life cost models and explains what needs to be done to keep costs under control at key stages in the project.

- **Achieving Excellence Guide 8: Improving performance.** This guide explains the principles and practice of performance evaluation. Measuring the performance of construction projects is essential for ensuring that planned improvements quality, cost and time are achieved, comparing achieved performance with that of similar projects and identifying potential for doing things better, and for assessing how the integrated supply team compares with other potential suppliers. Clients also need to measure their own performance and benchmark with other clients to identify areas for improvement.
- **Achieving Excellence Guide 9: Design Quality**. This guide explains the characteristics of good design and how design quality can be raised through the procurement process.
- **Achieving Excellence Guide 10: Through Health and Safety.** Government procurement policy is based on Value for Money. Client actions have a direct impact in achieving this policy and they must demand that the health, safety and welfare of those who work in the construction industry is given the highest priority. Health and Safety are often seen as extra costs or issues for somebody else. In reality, clients can make a crucial difference to improving health and safety whilst achieving Value for Money and the business case demands that they do so. This guidance identifies how client decisions and activities impact on health and safety issues and in turn how health and safety issues have a beneficial impact on the performance of the contract and on achieving Value for Money.

Key Findings

4.12. Key findings from the Achieving Excellence programme for the last three years include:

- For those departments that have signed up to Achieving Excellence, almost half of the targets have been met or exceeded, and a further quarter, are more than 90% met[5].
- Departments have overwhelmingly accepted the principles and benefits of the Achieving Excellence in Construction initiative and there is emerging evidence of real value for money gains being realised as a result.
- A solid foundation for even greater change and improvement has been laid, and there is a strong commitment to continue with the Achieving Excellence initiative.
- Departments have high level endorsement of their Implementation Plan.
- Senior management endorsement has had most impact where construction is a key part of the department's business.
- The recommended project structure (described in the document Construction Procurement Guidance) has received widespread acceptance across Government.
- The Construction Procurement Guidance series is highly rated.
- Finance and internal audit departments have been given a better understanding of the concepts of best value and whole life costing.

4.13. It is worth noting the specific reference that the Achieving excellence programme makes to improving environmental and health and safety outcomes, as discussed below.

Environmental Outcomes

4.14. In the 'Achieving Excellence Action Plan (see Annex 2) a commitment was made to setting up a 'Sustainability Action Group' to investigate how construction procurement can contribute to policy in sustainability. The programme, while recognising that although the overarching aim of procurement must always be the achievement of value for money and not the delivery of policies such as environmental sustainability, there is much that can be done on sustainability issues within the value for money approach. To move and to measure progress in a sustainable direction, a framework and a set of goals, were developed, including commitments are expected to result in:

- procurement in line with value for money principles on the basis of 'whole life costs'
- less waste during construction and in operation;
- targets for energy and water consumption for new projects that meet at least current best practice for

[5] Targets included the use of partnering and development of long-term relationships, the reduction of financial and decision-making approval chains, improved skills development and empowerment, the adoption of performance measurement indicators and the use of tools such as value and risk management and whole life costing

construction type and which contribute significantly to the achievement of cross-government targets agreed by Green Ministers;

- the protection of habitat and species taking due account of the UK Biodiversity Action Plan and the biodiversity action checklist for departments agreed by Green Ministers;
- targets developed in terms of 'respect for people' for procurement of the government estate; and
- a contribution to the goals of less pollution, better environmental management, and improved health and safety on construction sites.

Health and Safety

4.15. The Achieving Excellence programme recognises that health, safety and welfare issues are integral to the project process. Health and safety issues are not confined to the construction phase of a project, but occur throughout a project or facility's life. Many of the common health and safety problems encountered during construction and operation could be avoided if due consideration and effort were invested during the project brief and design phases. Client leadership is recognised as a crucial driver for improving health and safety performance throughout the supply chain. As major construction clients, central civil government departments must commit to, demonstrate and achieve excellence in their procurement practices. The programme committed central government construction clients to:

- have in place by March 2003 procedures for construction procurement which include criteria for the evaluation of competence, resources and commitment of designers and contractors in relation to health and safety, training and engagement with local communities, where relevant
- use the Considerate Constructors Scheme or similar when carrying out all new projects. The scheme aims, among other things, to raise standards of site management, safety and environmental awareness beyond statutory duties.

4.16. Some of the results and forecasts for NZ, based on the UK's programme, include:

- Case studies have shown that value for money improvements of 30% in the cost of construction and operational costs have been achieved.
- These studies also show that accidents decreased 61%.
- If adopted by just 1/3 of the industry in New Zealand, accident costs are forecast to decrease by $230 million.
- Construction suppliers saw a 2% increase in profit
- Client cost decreased by 6%[6].

NZ – Alliancing on ALPURT B2

4.17. Transit New Zealand has recently selected alliance partners to deliver the project, including completing detailed design and undertaking construction. The Alliance was established in late March 2004. Transit decided to adopt an Alliance model for the project, an approach which has not been used before in NZ on a project of this scale. Project alliancing is an innovative approach aimed at creating mutually-beneficial relationships between all parties involved, so as to produce improved project outcomes. Unlike traditional forms of contract where risk is allocated to different parties, under a 'pure' project alliance the alliance participants take collective ownership of all risks associated with the delivery of the project, with equitable sharing (in fixed pre-agreed ratios) of the 'pain' or 'gain' depending on how the outcomes compare with pre-agreed targets. The main reasons for selecting an alliance approach for this project were as follows:

- it will allow Transit to take an integrated approach to meeting the consultation requirements of the LTMA and to work closely with key stakeholders
- it provides Transit with accurate cost estimates for input into the financial toll revenue model
- it allows Transit to proactively seek improved environmental outcomes from the project
- it allows Transit to share risks with the private sector.

[6] Source: Site Safe New Zealand, received at seminar conducted by the Centre for Advanced Engineering.

NZ – Centre for Advanced Engineering

4.18. The Centre for Advanced Engineering (CAE) in Christchurch has been running a *Best Practice in Construction Procurement* initiative for 2 years in NZ. This initiative is based on the UK's *Achieving Excellence* (I was a Team member with the UK organisation before coming to NZ in 2001). The initiative is supported financially by:

- Meridian Energy
- Carson Group
- Auckland Airport
- Fletcher Construction
- Transit NZ
- Mainzeal
- Multiplex
- MWH / Solid Energy
- Vector
- Golden Bay Cement

4.19. CAE advises that the initiative also includes many other senior industry figures from client organisations, construction and consulting firms on a high level Steering Group. CAE runs a programme of benchmarked demonstration projects with an industry peer review group comprising representatives from the following projects:

- Grafton Gully / Freeflow Alliance
- Lyttelton Fast Coal Project
- Papatoetoe Under grounding
- Auckland Airport Runways
- Transit PSMC 05.

4.20. The CAE's website contains details on the establishment of the 'Rethinking Construction in New Zealand' project which is engaging in wide consultation with the construction industry to examine how New Zealand firms procure and deliver infrastructure projects. The purpose of the project is to quantify the scope for improvement, establish performance measures that might be adopted by New Zealand firms, and identify strategies for innovation in the procurement and delivery process. In the long-term the project aims to establish a viable industry program for promoting cultural change and facilitating improvements in efficiency and business performance.

4.21. Given the potential synergies between the aims of the CIC in commissioning this report, and the work being undertaken by CAE, there may be opportunities in considering a combined approach, or at a minimum and information-sharing process.

Summary Examples of Best Practices

4.22. In Annex 3 we summarises examples of "Best Practice Construction Procurement Processes". The research we undertook showed that examples were limited to either guidelines for best practice procurement, or case studies of projects that have used best practice methodologies or created best practice outcomes. Little detail is available as to how the guidelines have actually impacted on construction projects. The case studies below reflect the available information. Note that there is some overlap with the discussion in this section which has highlighted key inputs. The key programmes/examples covered in the Annex are as follows:

- Holmes Fire and Safety Ltd for Christchurch International Airport (Health and Safety)
- Office of Government Commerce UK. "Achieving Excellence through Health and Safety" (Health and Safety)
- Procurement – A Statement of Good Practice – Office of the Controller and Auditor General (Quality)

- "Quality-Based Selection for the Procurement of Consulting Services" International Federation of Consulting Engineers (Quality)
- UK Highways Agency – Procurement Approach in Line with Achieving Excellence Programme (Quality)
- URS New Zealand with PB Power (NZ) Ltd for Meridian Energy. Manapouri Second Tailrace Tunnel, Fiordland (Environmental Outcomes)
- Office of Government Commerce UK. "Achieving Sustainability in Construction Procurement" (Environmental Outcomes)
- Meritec for North Shore City council. North Shore City Wastewater standards – year 2002 revision (Training and Education)
- NHS Scotland HDL – Construction Procurement Annex A (Project Sustainability).

Best Practice Procurement

5. Summary: Principles to Apply in Developing Best Practice

5.1. Based on the findings from the previous section, this section sets out a broad summary of practices that the construction industry (purchasers and suppliers) should be trying to encourage.

5.2. It is important to note that there is not any one simple 'fix'. The key to delivering improved outcomes is to find the balance between all the aspects of procurement listed below, and to allow sufficient time and resource to ensure that the broader and longer term implications of any procurement decision can be adequately considered by client and contractor alike.

Structured Procurement Processes

5.3. As a minimum, procurement processes should follow the structured process set out in the Audit Office's guidelines. Key aspects to ensure are:

- For larger projects, consultants and contractors should be pre-qualified based in part on their implementation of best practice, where responsibilities are written into tender and contract documents and where tender submissions are evaluated based, in part, on best practice standards.
- Careful consideration must be given to the issue of defining the specification properly – eg considerations such as package size, length of term/ contract duration, pricing incentives etc. When specifying the goods or services to be procured the specification should contain a clear concise logical and accurate description of what is being purchased. This will help potential suppliers and those that will be involved in evaluating tenders (where applicable) and making the procurement decision. Specification can be functional, performance-oriented, technical or a combination of the above. The specification should cover:

  Mandatory and non mandatory requirements for the goods or service;

  Requirements relating to timetable, delivery date; and

  Performance standards including key performance indicators and targets covering inputs (the total resource), outputs (what will be produced) and outcomes (the impacts of the service).
- Good design needs to be supported and encouraged; design is integral to the achievement of value for money. It is at the design stage that most can be done to optimise the value of a facility to its end users. Good design takes full account of sustainability and environmental concerns. Badly designed facilities will fail to meet the needs of end users, cause operational problems, have high maintenance or running costs and can be inefficient, costly and dangerous to build.
- A contract management plan should be used. The objectives of this plan should iclude:

  setting out who will be involved in the management of the contract, and their skills, roles and responsibilities;

  describing how the performance of the contract will be measured and reported;

  defining the administrative and financial arrangements in relation to the contract;

  specifying how inspection, review, or internal or independent audit will be undertaken; and

  establishing procedures for resolving disputes or grievances.

Quality-Based Selection Processes - Focus on Value

5.4. Quality based selection processes should be encouraged. Practices to adopt include:

- Procurement processes should be focussed on the delivery of best value for money. This is seen to be not the lowest cost but the best balance of quality and whole life cost to meet the user requirement.

- Partnering approaches (working together to improve design, reduce accidents and costly future maintenance activities) should be encouraged.
- The method of selection should not force fees down to the point where consultants cannot afford to assign properly qualified staff for sufficient periods of time. Inadequate fees can lead to the reduction of the scope and quality of the work, by spending less time on the project, assigning sub standard materials, or assigning lower paid usually the less qualified personnel.
- Quality-based selection processes should be used to enhance the client/contractor relationship from the beginning of the selection procedure, which is not adversarial as in a price based selection process. Quality based selection brings the client and the consultant together as a team from the beginning, which is a key ingredient to ensure a quality project.
- Project scope should be determined when the client has had an opportunity to thoroughly discuss the project details with the best-qualified firm. Agreement can be reached upon the number of alternatives to be explored, the degree of attention to be given to environmental/consent issues, cost effectiveness, cost construction timeframe, social impacts, operation costs and maintenance details.

Relationships

5.5. The best project results are achieved when there is a true professional relationship of absolute trust between the client and the contractor. This is because the contractor must make sound, objective decisions and act in the best interest of the client at all times. In this context, practices to encourage include:

- The method of selection should seek to develop mutual confidence between the two parties (ie a quality-based approach).
- Processes should be encouraged whereby clients identify potential firms with relevant experience, select the most appropriate firm on a quality basis and then negotiate the fee on a mutually agreed upon scope of services with the selected firm, and execute appropriate agreement terms.
- Processes should be adopted where client and suppliers work together as a team – this can enhance whole life value while reducing total cost, improve quality, innovate and deliver a project far more effectively than in a traditional fragmented relationship that is often adversarial.

Training and Education

5.6. In general, we would expect that a move to quality-based selection processes, with less emphasis on trimming every last dollar of cost, will provide more incentives to the industry to invest in training and education. In fact, contractors will need to be able to innovate and develop, because it is the creativity, capability and competence of the firm that will differentiate it from others. Potential practices that Government could adopt include:

- establishment of a national help desk-type organisation, that provides its expertise on process and system innovation to clients and contractors
- inventory and evaluation of completed alliance contracts, giving full disclosure of all aspects, for the benefit of learning for all parties

Health and Safety

5.7. Health and safety issues are not confined to the construction phase of a project, but occur throughout a project or facility's life. Many of the common health and safety problems encountered during construction and operation could be avoided if due consideration and effort were invested during the project brief and design phases. In this context health and safety best practices would include:

- Ensuring that sufficient time is provided to plan, design and construct to incorporate health and safety elements throughout the life of the project.
- Setting mandatory health and safety practices/criteria that have to be met to even enter a selection process.
- Requiring all government agencies to be consistent with the New Zealand Injury Prevention Strategy, which includes the need to:

Support the development of positive social environments that promote resourcefulness, resilience, and respect and responsibility for self and others.

Control exposure to hazards through the improved design and maintenance of environments, systems and products.

Create environments, systems and products that reduce the likelihood of injuries occurring as a result of human error, whether unintentional or intentional.

Create and promote standards that facilitate the safer design and use of environments, systems and products.

Encourage people to consider injury prevention when making purchasing decisions.

- Provide the ability for senior staff in departments involved in construction procurement to have access to current information on health and safety performance for all of their projects
- Provide for contractors who have broken the law or committed grave misconduct on matters such as Health and Safety to be excluded from tendering.
- Adopting procurement processes with the following features:

  The selection of suppliers (including advisers and designers) that have an established corporate commitment and demonstrable performance in respect of health and safety;

  The award of the project to suppliers who have project specific proposals for managing health and safety that clearly demonstrate a total commitment to zero tolerance;

  The adoption of procurement processes that involve, during the early development and design stages, those parties that will construct, operate, maintain (including cleaning) and use the facility; and

  The use of open output performance-based specifications which give the relevant weighting to health and safety with other key drivers.

Environmental Outcomes

5.8. The key practice here is to ensure that relevant factors relating to sustainable development and the environment are built into contract specifications e.g. specifications may reflect environmental matters in keeping with government's 'green strategies' and by taking award decisions on the basis of 'whole life costs' (particularly including waste and energy use, for instance). Additionally, a move to quality-based selection processes would provide more flexibility for innovative environmental improvements to be made (as noted by Transit NZ in adopting an alliance approach for the ALPURT B2 project).

Quality Assurance

5.9. The quality of the services received/product delivered should be the paramount consideration. Quality, defined as conformance to client defined requirements, must be clearly understood by both parties. Adherence to a recognised quality assurance system should therefore be standard as a best practice to be adopted.

Project/Industry Sustainability

5.10. The supplier needs to be able to operate in a sustainable industry with an adequate return on capital invested; have the ability to add value recognised; work in a non adversarial relationship; be a competent and organised company that can offer an optimal bid price that includes adequate rate of return; and be innovative; skilled, responsible and responsive. The key issue here is for procurement agencies to acknowledge their roles in fostering a sustainable industry through positive market signals, beginning with quality based procurement systems.

Monitoring and Accountability

5.11. Integrating best practice into the tendering, planning and design phases of a project can lead to best value but having an effective monitoring and accountability system in place ensures that defined responsibilities are in fact met. Value is about what is delivered, not who wins the competition in the first place. In this context, key practices to adopt include:

- Performance measurement indicators and the use of tools such as value and risk management and whole life costing should be adopted as standard.

- Construction contracts should have requirements for measuring quality, cost and time dimensions, comparing achieved performance with that of similar projects and for identifying potential for doing things better.

- Clients need to measure their own performance and benchmark with other clients to identify areas for improvement.

Probity Issues

5.12. Often, one of the reasons provided for including a price component in an evaluation/selection process is to avoid being 'taken for a ride'. While these issues will need to be considered carefully in subsequent developments, there are a number of mitigating factors or processes that can be implemented to provide clients with confidence:

- The livelihood of contractors, and the sustainability of the industry, depend on them doing a good job, and being able to demonstrate value for money. If a contractor is found to have taken advantage of one or more clients, that information will quickly limit further opportunities for that contractor.

- Expert peer review processes can be included in evaluation, management and monitoring and review processes.

- Robust negotiation (of price) processes can still be an integral part of a contract process. A non-adversarial approach to selection can still feature a strong focus on price by both client and contractor – by sharing information they can find the best ways to ensure a good price for the work.

Summary

5.13. In summary, to reach the goal of achieving best value in the procurement of construction services, health and safety, quality, environmental and sustainability best practice must be integrated into each element of a construction project, as noted above. Over time, this will contribute to the achievement of the following:

- Transparency in process and execution
- Achievement of an agreed outcome for a fair price
- A partnership approach
- An educated client
- Fair monitoring/performance feedback system for contractors
- Evaluation based on clear client briefing and definition of scope of work
- Ability of suppliers to offer improved/extended services at additional cost
- A skilled workforce capable of meeting clients needs.

Best Practice Procurement

6. Next Steps

6.1. This report contends that Government (central and local) in New Zealand should be moving towards the wider introduction of Quality-Based Selection processes, in order to improve value for money in the construction sector. Several key next steps on this path are suggested below.

Government Leadership

6.2. The NZ Government is NZ's largest procurer of construction services, and needs to provide leadership in developing and applying practices to achieve value for money and best practice. The key to value for money, health and safety and environmental outcomes is good planning and management of projects.

6.3. The NZ Government should be striving to be among the world leaders in public sector implementation of a structured, quality-based construction procurement process. This does not need to mean 're-inventing the wheel'. The UK's Achieving Excellence programme, discussed in some detail in this paper, provides an exceptional foundation from which to begin development in NZ. This report's recommendation is that the Government should consider adopting the UK model, and adapting it to NZ conditions.

Steps

6.4. To assist alignment between the industry and government on the development and implementation of quality-based processes, we suggest the following steps:

- The Construction Industry Council should make representations to government about the use of quality-based processes, using the material in this report as a base, and seek endorsement of the approach.
- Government and the industry should set up a cross-sector working group of purchasers and suppliers, tasked with:
  - reviewing the potential for change
  - identifying the expected benefits of that change
  - identifying potential models for adoption
  - developing proposals for lifting competence in both purchasers and suppliers
  - defining processes for identifying and then ensuring best practice is applied.
- The UK *Achieving Excellence* programme should be used as a base from which to begin development of a framework for New Zealand for the adoption of value / quality based procurement guidance and procedures.
- Consideration should be given to the potential to work with the Centre for Advanced Engineering, which appears to have made good progress with its Best Practice in *Construction Procurement* initiative, which is based on the UK's Achieving Excellence.
- Consideration should be given to running an industry conference / series of seminars and/or preparing a package of information material, to ensure that those in the sector understand the potential benefits of change, and the extent of change to procedures that might be required.

Best Practice Procurement

List of References

The following information sources were used in the preparation of this paper:

Author(s)	Title / URL
Ahmed Ibrahim Mahmoud Desoky, Adel El-Samadony	The point of no return: web based construction management
Centre for Advanced Engineering	www.caenz.com
Competitive Pricing Procedures Industry Working Group	Procurement under the Land Transport Management Bill 2002 Discussion Document
Construction Industry Council	www.nzcic.co.nz
Construction Industry Development Board	www.cidb.org.za/initiatives/procurement.html
Consultants and Construction Contracts Guidelines	www.minedu.govt.nz
Corporate Travel Management benchmarking association	www.ctmba.com
Debra Jensen, Paul Boersma, Jim D'Antuono, Pete Davis, Patrick Marchese	Against the grain: implementing design/build projects with municipal agencies
FIDIC	FIDIC Guideline on the Selection of Consultants
Health and Safety Executive UK.	Construction (design and Management) Regulations 1994: the pre-tender stage health and safety plan
http://www.cidb.org.za/initiatives/cd/adobe/CodeGazette.pdf	Code of conduct for all parties engaged in construction procurement
International Federation of Consulting Engineers,Switzerland	Quality-Based Selection for the Procurement of Consulting Services
New South Wales Government	Code of Tendering for the Construction Industry
Office of Government Commerce United Kingdom	Achieving Excellence through Health and Safety – Construction Procurement Guidance
Office of Government Commerce United Kingdom	www.ogc.gov.uk
Office of Government Commerce United Kingdom	www.ogc.gov.uk/sdtoolkit/reference/achieving/aeplan.pdf
Office of the Auditor and Controller General	Procurement A Statement of Good Practice. 2001
Overview Group on Weathertightness	Report of the Overview Group on the Weathertightness of Buildings to the Building Industry Authority, 31 August 2002
PSIB	Process and System Innovation in the Dutch Construction Industry
Scottish Executive Health Department	Construction Procurement Policy for NHS Scotland – Annex A
The Association of Consulting Engineers New Zealand	Innovate NZ 2003 Awards of Excellence
The Association of Consulting Engineers New Zealand	Qualification Based Selection for the Procurement of Engineering, Management and Related Professional Consulting Services
The Association of Consulting Engineers NZ and the Institution of Professional Engineers NZ	Guideline on the Briefing and Engagement for Consulting Engineering Services

Author(s)	Title / URL
Transfund New Zealand	Transfund Policy on the Approval of Procurement Procedures
W Reismann, head of the European Contractors Federation	Address to the European Federation of Consulting Associations
www.ccscheme.org.uk	Achieving Sustainability in Construction Procurement: Sustainability Action Plan
Yean Yng Ling, George Ofori, Shi Pheng Low 2003	Evaluation and selection of consultants for design-build projects

In addition, the following websites were useful:

- www.property.gov.uk/services/construction/gccp
- www.sciencedirect.com
- www.bia.govt.nz
- www.ccsheme.org.uk
- www.construction-index.com
- www.dia.govt.nz
- www.knowledgebase.pmi.org
- www.fidic.org

Best Practice Procurement

Annex 1: Existing NZ Government Guidelines

Excerpts from the two primary existing government purchasing guidelines are provided below.

Government Procurement in New Zealand: Policy Guide For Purchasers

July 2002, Regulatory and Competition Policy Branch, Ministry of Economic Development

"This policy guide is intended to help government departments and other taxpayer funded agencies to support the Government's procurement policy. It is hoped that State-Owned Enterprises (SOEs) and local authorities will also base their procurement approach on this guide. It complements, and should be read in conjunction with, the detailed good practice guidance offered in the Auditor-General's June 2001 publication "Procurement: A Statement of Good Practice" which is available on the Internet at www.oag.govt.nz (under Publications).

The procurement policy has general application to acquisition by purchase, hire,lease, rental, exchange and competitive tendering and contracting (outsourcing) arrangements.

The Government expects its departments, and encourages other public sector agencies, to be guided in their procurement by the following principles, adopted

following a policy review in April 2001:

- best value for money over whole of life;
- open and effective competition;
- full and fair opportunity for domestic suppliers;
- improving business capabilities, including e-commerce capability; and
- recognition of our bilateral obligations to Australia (Closer Economic Relations) and Singapore (Closer Economic Partnership), and our trade policy interests in open and transparent government procurement markets.

The Government has adopted a National Energy Efficiency and Conservation Strategy (September 2001) and a New Zealand Waste Strategy (March 2002). These set national targets for increased efficiency in energy and resource use in all sectors of society. Government agencies are expected to take account of these Strategies and targets in their procurement in ways that are consistent with the value for money and other policy and good practice considerations set out in this policy guide. International moves to limit and reduce emissions of greenhouse gases are likely to result in additional incentives for the adoption of renewable and energy efficient products, processes and technologies.

Whole-of-Life Procurement Factors

By taking account of cost savings obtainable from use of energy efficient products and technologies, agencies' procurement can contribute to achievement of the National Energy Efficiency and Conservation Strategy target of a 15 percent improvement in energy efficiency over five years in central government. The Energy Efficiency and Conservation Authority (EECA), the principal body responsible for delivering the Strategy, provides assistance to purchasing agencies under its EnergyWise Government programme (see website www.eeca.govt.nz). EECA provides partial funding for energy audits of buildings and vehicle fleets, and low cost loans to finance the purchase of energy efficient equipment. Eco-efficient vehicle purchasing guidelines are expected to be available from September 2002.

In their assessment of value for money over whole of life, purchasing agencies should give due consideration to minimisation of waste and disposal costs. By specifying products that can be reused and/or contain recycled content wherever reasonably possible and cost-effective, government agencies will help to maintain and develop the market demand which makes local waste collection, recovery and recycling industries viable and efficient.

Achieving the intent of the Government's procurement policy depends not only on awareness of the policy principles, but also on good practice. Cost-effective procurement may involve new approaches and procedures to take advantage of changes in the marketplace and technology, but competition remains a key principle of policy and good practice. This will help to ensure the best value for money, while avoiding unfair denial of opportunities or discrimination. Agencies' purchasing procedures should be guided by the Auditor-General's publication "Procurement: A Statement of Good Practice" (www.oag.govt.nz under Publications)."

Procurement – A Statement of Good Practice

June 2001, Office of the Controller and Auditor-General

Part 1 of the document sets out the overriding considerations that a public entity should consider when procuring goods or services.

Part 2 describes, in relation to each part of the basic procurement process:

- the overall principles of good practice; and
- information which a public entity might include in its own procurement manual.

Part 3 discusses particular types of procurement, and how the basic procurement process described in Part 2 applies to them. The types of procurement which Part 3 covers are:

- the engagement of consultants;
- syndicated procurement;
- contracting out, co-sourcing, and outsourcing;
- contracting for the construction of physical works;
- sole source situations;
- monopsonist or sole procurers;
- procurement in the electronic commerce context; and
- guidance on IT System procurement (will be developed at later date).

"A public entity has considerable discretion as to how it procures goods or services. However, each entity has a responsibility to manage its resources in an effective and efficient manner.

Applying this principle may involve assessing whether productivity, innovation, greater choice, and lower prices outweigh the benefits of maintaining stability, trust and effective working relationships with existing providers.

Total Cost of Ownership ("Whole-of-Life" Cost)

When assessing a procurement proposal, a public entity should be aware of the "whole of life" cost of the goods or services it is procuring.

Often, the acquisition cost of a product is only a small proportion of the total cost of ownership. Usually, most of the total cost lies in operating and maintaining the product over its life. This makes it important to base a procurement decision not only on the acquisition price but also on the costs of using the product.

When assessing the "whole of life" cost, a public entity should differentiate between one-off costs and recurring costs. One-off costs are "sunk" once the acquisition is made, and are generally predictable. Recurring costs, on the other hand, continue to be incurred throughout the life of the product, and can increase with time if the product is liable to wear and tear – resulting in increased maintenance costs.

Value for Money

A public entity should adopt a "value for money" approach when it procures goods or services.

By "value for money", we mean the best possible outcome for the total cost of ownership. "Value for money" does not necessarily mean selecting the lowest price. Rather, the public entity should achieve the right quality, quantity and price, at the right place and time. Care should be taken to ensure that unreasonable delivery risk is not assumed

in pursuit of the lowest "whole of life" cost, for example, procuring complex information technology solutions.

A public entity should use enough suppliers to support product and user requirements, while keeping procurement and holding costs to a minimum.

If a public entity operates at more than one location, there is a risk that employees at each site may enter different arrangements with the same suppliers for the same or similar products. To reduce this risk, an entity should share information between sites and ensure that procurement decisions take account of the costs of separate procurement.

A public entity should generally avoid purchasing different brands according to individual user preferences, except where there are verifiable differences in the utility of the product.

Purchasing Manuals

Detailed guidance in your own manual may cover the detailed matters to be included in a purchasing plan, including:

- timetable, including key dates and milestones;
- how and when the matters raised in the business case will be addressed;
- the level of specification (see section 2.3);
- evaluation criteria (see section 2.4);
- conditions of the contract (see section 2.5);
- contract management (see section 2.6);
- method of procurement (see section 3);
- the business terms for the procurement – these detail at a high level the fundamental commercial arrangements that will be documented in the contract with the supplier; and
- whether the procurement process should be reviewed by an independent person.

Evaluation Criteria

A robust method of evaluation is critical to ensuring that:

- the selected supplier has the capability to deliver the goods or services; and
- best value is received for the money spent.

The evaluation criteria should be sufficiently detailed to enable the public entity to:

- assess the relative strengths and weaknesses of each potential supplier; and
- establish indicators against which to measure the performance of the selected supplier.

In the case of a procurement by tender, making the criteria available to potential suppliers can help to produce focused tenders.

If the procurement process will involve a pre-qualification stage the public entity should, during the procurement planning stage:

- establish criteria for evaluating registrations or expressions of interest when they are received;
- decide which (if any) of those criteria should be mandatory; and
- if applicable, assign weightings to each criterion.

The types of criteria that should be considered for evaluating offers (including tenders) may include:

- the extent to which an offer complies with the terms and conditions (both contractual and technical) of the procurement;
- the technical merits of the goods or services offered – for example:
- their conformance with applicable standards;
- the availability of spare parts and technical support; and
- their compatibility with the public entity's existing systems;
- the supplier's capability – for example:

- its experience in providing similar services;
- the skills, experience, and competence of its key personnel;
- its design and development capability;
- its financial status;
- the level of its management competence; and
- its ability to meet the specified timetable;
- cost issues – for example:
- whether costs are expressed on a "whole of life" basis;
- whether the price is sustainable over the life of the contract; and
- what would be the costs of negotiating a renewal of the contract.

Contents of the tender package should include:

- the specification – the objectives of the procurement should be identified
- the evaluation criteria;
- the proposed roles and responsibilities of the contracting parties;
- rules and procedures governing:
    - pre-tender briefings;
    - content of tenders;
    - submission of tenders including treatment of late tenders;
- conduct of the tender process for example:
    - contact points;
    - negotiation;
    - due diligence including any requirements for references;
    - right to inspect premises or facilities;
    - provision of samples;
- confidentiality of information obtained by tenderers during due diligence, and limitations on future use of information;
- the information required from the tenderer – sufficient information should be sought to enable the public entity to measure each tenderer's performance against the evaluation criteria, and support an assessment of the best value for money;
- the type of contract envisaged, and the key conditions which are contemplated and any business terms which summarise the key commercial and legal positions of the public entity;
- a statement that the lowest or any tender will not necessarily be accepted;
- if applicable, a statement that non-conforming tenders will be accepted, and encouragement for tenderers to submit alternatives.

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UK Action Plan for Improvement in Government Client Performance

The Following Action Points are Endorsed by the Government Construction Projects

The following action points are endorsed by the Government Construction CIC
well as new works. References to departments include agencies and NDPB's with significant construction expenditure.

1. Management

Objective	Actions (at central level)	Target Date	Actions (at department level)
1.1 To obtain endorsement of Government plans for becoming best practice client	1.1.1 Publish "the Government Client Improvement Study" and Client Improvement Action Plan	29/10/98	1.1.1.1 Departments to obtain departmental senior management endorsement of the need for and action on Government Client improvement.
	1.1.2 Presentation of proposals at Rethinking Construction Conference (Egan)	3/11/98	
	1.1.3 PPD to obtain endorsement by GCCP Strategy Group and full GCCP to client improvement action plan	1/99	
	1.1.4 PPD to commission implementation plans from Departments (including those not on the GCCP). Consider using Minister's letter	1/99	1.1.4.2 Departments to submit implementation plans to PPD by 31 March 1999
1.2 To enhance Key Client Roles	1.2.1 GCCP Project Sponsor Action Group to submit recommendations for enhancing Project Sponsor Role	6/99	1.2.1.1 Departments to endorse key role of project sponsor and empower that role
	1.2.2 GCCP Project Sponsor Action Group to review performance in relation to Procurement Guidance No. 1 and to provide more detailed guidance on the key client roles if necessary	6/99	

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Objective	Actions (at central level)	Target Date	Actions (at department level)
	1.2.3 PPD to examine Project Sponsor developments and to consider linking with the Government Procurement Service if appropriate	6/2000	
1.3 To enhance Project Sponsor training and skills	1.3.1 PPD to ensure availability of Project Sponsor training programme and competence award scheme 1.3.2 GCCP Training Group to review Project Sponsor training and introduce changes	Ongoing 6/99	1.3.1.1 All Project Sponsors to be fully skilled and empowered, in the requirements set out in Procurement Guidance No. 1
1.4 To improve Government client project management techniques	1.4.1 GCCP to identify best practice in project management and to disseminate information on this	7/99	1.4.1.1 Departments to adopt recommended project management approach/es
1.5 To ensure construction procurement meets Government policy on sustainability	1.5.1 GCCP to set up a sustainability action group to investigate how construction procurement can contribute to policy on sustainability	1/99	1.5.1.1 Departments to adopt findings of the sustainability action group as appropriate

UK Action Plan for Improvement in Government Client Performance

2. Measurement

Objective	Actions (at central level)	Target Date	Actions (at department level)
2.1 To identify and refine best practice using Benchmarking	2.1.1 Publish "Pilot Benchmarking Study"	10/98	2.1.2.1 Departments to apply these KPI's to measure performance
	2.1.2 Benchmarking Group to develop and agree Key Performance Indicators, in liaison with Egan team, for common project areas including, but not restricted to, time and whole-life cost predictability. These KPI's should allow measurement against Egan Targets	3/99	2.1.2.2 Each Department, as relevant, to provide at least one demonstration project to assist the Movement for Innovation
	2.1.3 PPD to co-ordinate benchmarking exercise for Government Construction Client performance	6/99	
	2.1.4 PPD/Benchmarking Group to investigate scope for benchmarking outside the British Government Sector (eg with ECI)	7/99	
2.2 To identify and refine best practice using post project implementation reviews	2.2.1 PPD to update existing guidance on post project implementation reviews	10/99	2.2.1.1 Each Department to examine if post project implementation reviews are being carried out and reasons why they may not be
	2.2.2 Benchmarking Group to consider how to most usefully use information from post project implementation reviews	6/99	2.2.1.2 All Departments to undertake post-project implementation reviews (degree of adoption dependent upon size and complexity of project) and to make results available to Benchmarking Group
			2.2.1.3 Post project implementation reviews to include feedback from suppliers and users on client performance

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Annex 2

Objective	Actions (at central level)	Target Date	Actions (at department level)
2.3 To improve Government client performance using collaboration and joint working	2.3.1 PPD to establish GCCP website to hold range of information including case studies	11/98	2.3.1.1 GCCP members to provide case studies and other data for inclusion on GCCP website to allow full sharing of information
	2.3.2 PPD to develop links between GCCP and Construction Best Practice Programme including use of the CBPP "Knowledge centre"	10/98 and ongoing	
2.4 To improve Government client performance using feedback from industry	2.4.1 PPD/GCCP to develop and undertake annual/18 monthly survey with industry umbrella bodies via CIB and CCF. Results to be disseminated to departments	10/99	2.4.1.1 Departments to implement areas for improvement identified through the survey
2.5 To enrol assistance of strategic allies in implementing client improvements	2.5.1 PPD, NAO and departmental heads of Internal Audit to develop model for cooperation and agreement on establishing progress on implementation. NAO to undertake periodic reviews of implementation by department	6/99	2.5.1.1 Departmental Construction Units, or equivalent, to advise Heads of Audit of Client Improvement Action Plan 2.5.1.2 Departmental Construction Units, or equivalent, to advise Finance Sections of the Client Improvement Action Plan
	2.5.2 PPD to investigate Treasury's approval scheme for construction projects (currently based on capital expenditure rather than life-cycle costs) and to amend guidance as appropriate	6/99	

Best Practice Procurement | Annex 2

UK Action Plan for Improvement in Government Client Performance

3. Standardisation

Objective	Actions (at central level)	Target Date	Actions (at department level)
3.1 To develop standard practices and approaches/procedures	3.1.1 PPD through the GCCP to investigate the extent to which life cycle costings are being carried out and the steps required to ensure they are. (Perhaps through PG Guidance series)	7/99	3.1.1.1 Departments to provide information on the extent to which life cycle costings are being carried out and why they may not be
	3.1.2 GCCP to endorse: a. procurement decisions based on value for money, not lowest cost; b. payment of bills promptly in accordance with terms of contract (of Late Payment of Commercial Debt Act, Housing Grants, Construction and Regeneration Act); c. use of risk and value management principles on all projects (degree of adoption dependent upon size and complexity of project); d. use output based/performance specifications wherever possible; e. inclusion of project control gateways in every project plan; f. use of life cycle costing; g. use of robust change control mechanisms for each project; h. debriefings based on value for money feedback, not cost alone	1/99	3.1.2.1 Departments to put these practices into place (where they are not already standard practice) and maintain these

Objective	Actions (at central level)	Target Date	Actions (at department level)
3.2 To improve Government / Client performance through the use of technology	3.2.1 GCCP Strategy Group to consider technology necessary to improve performance what is available or developing and the introduction of technology across departments eg sharing (taking industry request for one Government project information management system, into account)	8/99	3.2.1.1 Departments to implement the required technology within financial constraints
4. Integration			
4.1 To reduce project delays caused by waiting for decisions to be made or funds to be released	4.1.1 Links to Project Sponsor and empowerment (see 1.2.1.1 above)	N/A	4.1.1.1 Departments to review and reduce, where necessary, project and financial approval chains (as well as empowerment of key role in the procurement process) 4..1.1.2 Departments to use the CSR 3 year programme and budget planning process to ensure smooth progress of projects 4.1.1.3 Departments to review risk management and change control processes to minimise disruption caused by eg legislative or policy changes
4.2 To increase integration of all parties in the supply chain	4.2.1 GGCP/PPD to endorse the team working /partnering principles for all contracts and the used of innovative means to obtain best VFM (while meeting in particular design, legal and competitive requirements) 4.2.2 PPD to issue clear guidance on adoption of partnering/teamwork principles and procurement strategies (Procurement Guidance Nos. 4 and 5)	1/99 4/99	4.2.1.1 Departments to ensure early communication between designers, clients, suppliers (as appropriate) to develop a clear understanding of client requirements and teamworking ethos 4.2.1.2 Departments to adopt partnering/teamworking priciples to obtain best VFM

UK Action Plan for Improvement in Government Client Performance

4. Integration

Objective	Actions (at central level)	Target Date	Actions (at department level)
	4.2.3 PPD to keep GCCP informed of developments in EC Procurement policy including teamworking, partnering and frameworks	Immediate as arise. Ongoing	4.2.1.3 Departments to use innovative procurement strategies such as Design and Build, PFI, Design/Build and Maintain and Prime Contracting generally for projects, Traditional methods of procurement only to be used where they offer better value for money
4.3 To increase the use of incentives to achieve improved performance and VFM on projects	4.3.1 GCCP Strategy Group to investigate the scope for and type of incentives that could be used by Departments	7/99	4.3.1.1 Departments to implement the findings of this investigation as appropriate

UK Action Plan for Improvement in Government Client Performance on Construction Projects

Targets from the Egan Task Force Report – "Rethinking Performance"

Reduce Capital Cost (excluding land and finance) by 10% per annum
Reduce Construction Time (ie from client approval to practical completion) by 10% per annum
Increase the Number of Projects Completed on Time and Within Budget by 20% per annum (Predictability)
Reduce the Number of Defects on Handover by 20% per annum
** Reduce the Number of Reportable Accidents by 20% per annum*
** Increase Productivity (Increase in value added per head) by 10% per annum*
** Increase Turnover and Profits of Construction Firms by 10% per annum*

The GCCP's Client Improvement Action Plan is entirely complementary to the Egan Targets above. It has however proved impossible to link each action point to a target or to put a figure on how the action points might contribute to s targets.

The GCCP recognises that measurement of performance in relation to the Ega
Indicators and benchmarking exercises set out at 2.1 of the Action Plan for Improvement.

Best Practice Procurement | Annex 3

Summary Examples of Best Practices (Development, Requirement, Application)

The table below summarises examples on "Best Practice Construction Pro
ment, or case studies of projects that have used best practice methodologies
projects. The case studies

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Area		Name	Description	Reference
Health and Safety	NZ	Holmes Fire and Safety Ltd for Christchurch International Airport.	Incorporating the company engaged for conceive, design and supervising the installation of the building fire safety system enabled an innovative solution which met the needs of the client. Incorporating Holmes Fire and Safety as part of the project team from the start of the project enabled it to determine the project's fire protection needs as part of the business case risk assessment. These were translated into a concept that was constrained by the way the building was to be used now and possible future changes. This project won Silver at the ACENZ Awards of Excellence in 2003.	Innovate NZ 2003 ACENZ Awards of Excellence
Health and Safety	Intl	Office of Government Commerce UK. "Achieving Excellence through Health and Safety"	This report identifies that the key areas where a client can have the greatest impact on health and safety on construction are in: • The selection of suppliers (including advisers and designers) that have an established corporate commitment and demonstrable performance in respect of health and safety; • The award of the project to suppliers who have project specific proposals for managing health and safety that clearly demonstrate a total commitment to zero tolerance; • The adoption of procurement processes that involve, during the early development and design stages, those parties that will construct, operate, maintain (including cleaning) and use the facility; and • The use of open output performance-based specifications which give the relevant weighting to health and safety with other key drivers. The primary benefits to the client for ensuring that health and safety are managed properly include:	Office of Government Commerce UK. Procurement Guidance "Achieving Excellence through Health and Safety" Edition 1 October 2001

Area		Name	Description	Reference
			• Achieving greater Value for Money thought whole life cost and quality; • Reduced risk of delay and cost overrun; • Opportunities for creating a positive public profile; • A demonstrable commitment to people, their health, safety and welfare; and • The avoidance of criminal proceedings and legal claims for compensation. This report recommends that: • User needs should be identified/confirmed through a group participatory 'Value Management' workshop involving stakeholders. This type of workshop allows stakeholders to hear and understand the requirements of the other stakeholders before reviewing their own requirements • The use of prescriptive input specifications by clients or their advisers can limit the opportunities for delivering Value for Money and requires a sound knowledge of the process risks that can arise. Their use is not best practice. • The optimum aim should be to involve the suppliers and users at the outset to inform the design process and reduce safety risks. Those staff involved in the maintenance of the final development should be involved early as they will be able to advise on improvements to the design and on the selection of materials and equipment which could make their tasks easier and so preclude the risk of work-related injuries and ill health. Similarly, those responsible for maintenance and reports can advise on where the design could be improved, either to allow easier access or to simplify the report process, and importantly how to reduce the need for such activities. • Clients need to develop performance specifications that make clear their commitment to health and safety throughout the life cycle of their procured facilities. They need to ensure that such obligations are fully addressed through supplier selection and appointment and subsequently during contract oversight and management. Clients need to obtain regular, essential health and safety information about the site and existing facilities.	

Summary Examples of Best Practices (Development, Requirement, Application)

Area		Name	Description	Reference
			• When selecting tenderer's key selection criteria should include relevant issues concerning their previous performance on health and safety and their current approach to health and safety. A tenderer's demonstrable high level commitment (e.g. health and safety as an agenda item equal to other key performance measures at board meetings) is a useful indicator. A further key indicator of corporate commitment to health and safety is a tenderer's implementation of a challenging, continuous improvement action plan that involves all workers and focuses on key issues such as improving safety management, training and worker consultation. • Tenderers should set out their proposals for managing the health, safety and welfare of their workforce and that of their supply chain in respect of working the project/site. Evaluation of these aspects should carry and expected high but relevant weighting. • Formal project evaluations should be carried out following the conclusion of each project to address supplier health and safety performance as well as any health and safety issues identified after the facility as been put to use.	
Quality	NZ	Procurement – a statement of good practice	This document outlines the Office of the Controller and Auditor-General's guidelines to a quality procurement process. The document covers: • The overriding considerations that a public entity should consider when procuring goods or services; • The overall principles of good practice; • Information which a public entity might include in its own procurement manual; and • Discusses particular types of procurement and how the basic procurement processes apply to them.	Procurement – a statement of good practice. Office of the Controller and Auditor-General. New Zealand

Area		Name	Description	Reference
			Some of the key points the guidelines raise are outlined below. When specifying the goods or services to be procured the specification should contain a clear concise logical and accurate description of what is being purchased. This will help potential suppliers and those that will be involved in evaluating enters (where applicable) and making the procurement decision. Specification can be functional, performance-oriented, technical or a combination of the above. The specification should cover: • Mandatory and non mandatory requirements for the goods or service • Requirements relating to timetable, delivery date; and • Performance standards including key performance indicators and targets covering inputs (the total resource), outputs (what will be produced) and outcomes (the impacts of the service) It is recommended that organisations create a contract management plan. The objectives of this plan should include: • setting out who will be involved in the management of the contract, and their skills, roles and responsibilities • describing how the performance of the contract will be measured and reported • defining the administrative and financial arrangements in relation to the contract • specifying how inspection, review, or internal or independent audit will be undertaken and • establishing procedures for resolving disputes or grievances When selecting the method of procurement, a public entity should have regard to: • the need wherever possible, to promote open and effective competition throughout the procurement process, and • the complexity of, and risk associated with, the procurement that the benefits of the method outweigh the costs	

Summary Examples of Best Practices (Development, Requirement, Application)

Area		Name	Description	Reference
			Ensuring that the terms of the contract are adhered to, and that all parties to the contract understand their respective obligations, is critical to achieving value for money. Effective contract management requires a thorough understanding of: • the contract management environment; • the risks; and • what style of management is appropriate.	
Quality	Intl	"Quality-Based Selection for the Procurement of Consulting Services" International Federation of Consulting Engineers	This paper explains how to assess the ability of consulting firms and what method to use to select the best firm for the projects. The phrase "quality-based selection" (QBS) is used because it represents the process of selection of consulting firms on the basis of qualifications, experience, ability and integrity. Selecting a consultant is one of the most important decisions an owner or client makes. The success of any project often depends upon obtaining the most able, experienced and reputable expertise available. Successful consulting services depend on sufficient time spent by properly qualified people. Thus the method of selection should not force fees down to the point where consultants can not afford to assign properly qualified staff for sufficient periods of time. Inadequate fees lead to the reduction of the scope and quality of the service by spending less time on the project or assigning lower paid and usually less qualified personnel to the project. These lower consulting fees give no assurance of lower total project costs. Inadequate engineering often leads to higher construction costs. All of which are likely to cost far more than the potential saving made on design fees. Using the QBS process enables the client to choose the consultant on the basis of professional competence, managerial ability, availably of resources, professional independence, fairness of fee structure, professional integrity and quality assurance systems.	

Best Practice Procurement

Annex 3

Area		Name	Description	Reference
Quality	Intl	UK Highways Agency	Highways Agency has a large construction programme. It has recently totally re-engineered its business processes to deal with the construction industry in a different way. It evaluates all tenders on the basis of quality and price, which allows it to give greater consideration to the quality of the final construction. This gives contractors the incentive to put forward innovative designs and cover longer term aspects, such as the whole life costs and environmental impact. Senior management have given Achieving Excellence their unequivocal support. The Chief Executive has signed up to the Action Plan, which has been endorsed by the Head of Procurement. The principles of Achieving Excellence are being promulgated throughout the organisation; the corporate procurement strategy, launched in November 2001, incorporates the principles of Achieving Excellence and is standard practice throughout the Agency. On all projects carried out, regardless of discipline, the Agency has adopted the key client role approach and appoints an investment decision maker, project owner (SRO) and sponsor. Internal training courses for the sponsor role have been introduced and a programme agreed with the Civil Service College (CSC) to put the large number of Highways Agency sponsors through the formal course. The Agency has adopted the Gateway process and is phasing it in on their projects over time. Highways Agency uses Key Performance Indicators (KPIs) and has introduced additional targets to monitor performance. It is committed to the Client's Charter and will be adopting the Charter KPIs. A number of demonstration projects have been undertaken. The Agency takes part in the annual supplier satisfaction surveys and carries out its own annual supplier reviews to provide feedback. Value and risk management techniques are used as standard practice on all projects. The Agency uses the Procurement Guidance extensively. A whole life cost approach is contained within the standards for road pavements and structures and the forms of procurement encourage best whole life value solutions for projects. Approval chains tend to be project specific. The Secretary of State retains responsibility for safety of the road network and is required to be part of the approval process for safety related issues. An integration team/partnering approach is encouraged by Highways Agency's procurement strategy and is extended to the stakeholders on a project basis to ensure early involvement of the whole team. As a part of this process specialist designers are required to be on site, at least on a part time basis, to ensure timely resolution to design issues and enhance workflow. Incentivisation for the supply chain is based around target costs; a pain/gain share formula is increasingly being used to encourage suppliers to be innovative and improve performance, and forms part of the new procurement strategy.	Highways Agency – Case Study from OGC's Achieving Excellence publications

Best Practice Procurement | Annex 3

Summary Examples of Best Practices (Development, Requirement, Application)

Area		Name	Description	Reference
Environmental Outcomes	NZ	URS New Zealand with PB Power (NZ) Ltd for Meridian Energy Manapouri Second Tailrace Tunnel, Fiordland	In the 1990's Meridian Energy's predecessor ECNZ, developed a concept for increasing the output from Manapouri Power Station by constructing a second tailrace tunnel. In 1995 URS New Zealand was engaged to investigate the technical and economic feasibility for improving the efficiency and output of the station through construction of the second tunnel. Key to the success for the project was seven years of detailed planning, design and construction, involving a team made up of design and construction specialists from around the world. The URS design team lead a comprehensive project involving many aspects of environmental investigation and engineering design. The project used knowledge gained on the construction of the first tunnel. A number of risk management innovations were introduced to minimise the unknowns. Key risks addressed by the project were the location in an environmentally valuable area and remoteness from settlements. This project was a finalist in a Global Energy Awards and commended for its sensitivity to the environment and positive impact on global warming. It was also awarded Silver at the ACENZ Awards of Excellence in 2003. *No detail is available as to how environmental outcomes were included in the procurement process.*	Innovate NZ 2003 ACENZ Awards of Excellence
Environmental Outcomes	Intl	Office of Government Commerce UK. "Achieving Sustainability in Construction Procurement"	This project sets a framework and goals to move and measure progress in environmentally sustainable construction procurement. Goals have been set for departments in relation to each element of the framework. The framework used to achieve sustainability in Construction Procurement is based on ten themes. These are: • *Re-use existing built assets* – Consider the need for new build. Refurbishment/reuse may work better. Think brownfield wherever possible for new construction. • *Design for minimum waste* – Design out the waste both during construction and from the useful life – and after-life of the building or structure. Think whole live costs. Involve the supply chain. Specify performance requirements with care to encourage more efficient use of resources. Think about using recycled materials. • *Aim for lean construction* – Work on continuous improvement, waste elimination, strong user focus, value for money, high quality management of projects and supply chains, improved communications.	www.ogc.uk/sdtoolkit/refrence/achieving/sustainability.pdf

Area		Name	Description	Reference
			• *Minimise energy in construction* – Be aware of the energy consumed in the production and transport of construction products. Adopt "green" travel policies. • *Minimise energy in use* – Consider more energy efficient solutions in design including passive systems using natural light, air movement and thermal mass, as well as solutions involving energy produced from renewable sources. • *Do not pollute* – Understand your environmental impacts and have policies and systems to manage them positively. Use environmental management systems under ISO 14001 or EMAS Specify adoption of the Considerate Constructors Scheme or similar. • *Preserve and enhance bio-diversity* – Look for opportunities throughout the construction process – from the extraction of raw materials, through the construction phase, to the landscaping of buildings and estates – to provide and protect habitats. • *Conserve water resources* – Design for increased water efficiency in building services and water conservation within the built environment • *Respect people and their local environment* – Be responsive to the community in planning and undertaking construction. Consider all those who have an interest in the project. • *Set targets* – measure and compare your performance with others. Set targets for continuous improvement. Develop appropriate management systems. The project states that sustainability can be achieved by building in relevant factors relating to sustainable development and the environment into contract specification e.g. specification may reflect environmental matters in keeping with departmental green strategies and by taking award decisions on the basis of "whole-of-life" costs.	

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Summary Examples of Best Practices (Development, Requirement, Application)

Area		Name	Description	Reference
Training and Education	NZ	Meritec for North Shore City Council. North Shore City Wastewater Standards – year 2002 revision	Stormwater sewer flow monitoring on the North Shore had shown that even relatively new networks experienced significant leakage and were becoming over-taxed. Investigation showed where improvements could be made to the current standard design and construct manual that would reduce this problem and ensure a longer life to the system, plus have added safety benefits for the operation of the stormwater system. A partnership approach was developed between North Shore City and Meritec to revise the Infrastructure Design Manual. The revised manual was developed through consultation with council staff and contractors. The manual was introduced through two workshops attended by a wide cross-section of the consulting and construction industries. Several other councils have since adopted the new standards developed in this project into their own manuals. Manufacturers have also used them as a basis for projection.	Innovate NZ 2003 ACENZ Awards of Excellence
Project Sustainability	Intl	NHSScotland HDL – Construction Procurement Annex A	The following policy statements relate to all NHSScotland bodies • Must have a construction procurement policy consistent and supportive of the Departments • Must comply with relevant statutes • Must use best practice processes when a client of the construction industry • Should work with the construction industry, through team working or partnership where possible, to support the need for innovation and improvement in performance • Must support the relevant environmental management policy • Must contribute to and participate in measures aimed at implementing construction best practice • Support the Scottish Executive's aim of encouraging higher standards of design	NHSScotland (Scottish Executive Health Department)

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Area		Name	Description	Reference
			This policy identified the following mandatory requirements of all NHSScotland bodies that have a total capital value over 1.5M inclusive of Fees and VAT (and other criteria where relevant): • Must have a construction procurement policy consistent with and supportive of the Departments policy • Must practise risk management, value management and whole-life-costing • Must use a whole-life-cost plan against which periodic post occupation whole life costs analysis should be compared • Must undertake a cost analysis of the construction cost element at construction tender acceptance stage • Must undertake a post-project evaluation, normally within six months of client occupation • Must undertake a post-occupancy evaluation at occupation plus 2–3 years • Must subject its occupied building to an annual occupancy cost analysis (can be restricted to the biggest 80% of a particular bodies holding) • Must participate in wider action to support the above policy aims, including the publication of relevant outcomes, to assist benchmarking and life long learning purposes • Must consider all relevant means of assessing construction procurement performance including benchmarking and contributing to the Department of Environment, Transport and the Regions construction industry client key performance indicators • Must appoint an Investment Decision-maker, Project Owner, and a suitably experienced and trained Project Sponsor • Must support the Project Sponsor with a suitably qualified Project Manager and a Client Adviser where necessary	